## Information and Knowledge Management Transforming Government Services:

How Information

Management is Altering the
Relationship with the Citizen

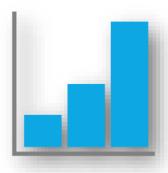




## The World is Changing!

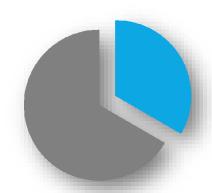


### The World of Data is Changing



The amount of data you have doubles every 12 to 18 months

Thomas Redman – Data-Driven



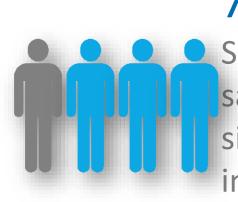
The average amount of inaccurate data in an organization increased by 30% last year.

Experian Data Quality Survey



50% of Data Warehouse projects will fail or receive limited acceptance because of NOT proactively addressing data quality issues

Thomas Redman – Data-Driven



75% of 250 CFOs
Surveyed
said "data quality
significantly
impedes performance."

Gartner Survey

### As data has increased, organizational life expectancy has decreased...



### **Islands of Citizen Data Reside in Different Systems**

### Online Transactions

### Web Applications

Michael Johnson User id :mjohnson License:: JP987

### Unstructured Data

### Document Management AFIS

Michael Johnson Tax.tif

### ERP System

### Tax & Revenue

M.P. Johnson, USA Tax ID: 234-JP-003



### 311 System

### CRM Call Center

Mike. Johnson Last Interaction: 4/11/03 (Lottery proceeds on hold)

### 3<sup>rd</sup> Party Information

### Data Warehouse

Michael A. Johnson 1400 54rd Avenue NY NY 212 995-3345

### Courts Case Data

### Civil, Juvenile, Criminal, Probate

Michael P Johnson, 1623 Willow Lane Deceased: 02/19/2007

### DMV Registration

### **DMV**

Michael Percy Johnson DL: N123-29-22-129-10 1623 Willow Lane Ovenhurst, NY 23432

> ! Opt-Out flag ! Organ Donor

### External Query

### **Watch Lists**

Michael Johnson User ID: Mjohnso! Personalized access! Online Licenses! Sub: Newsletter

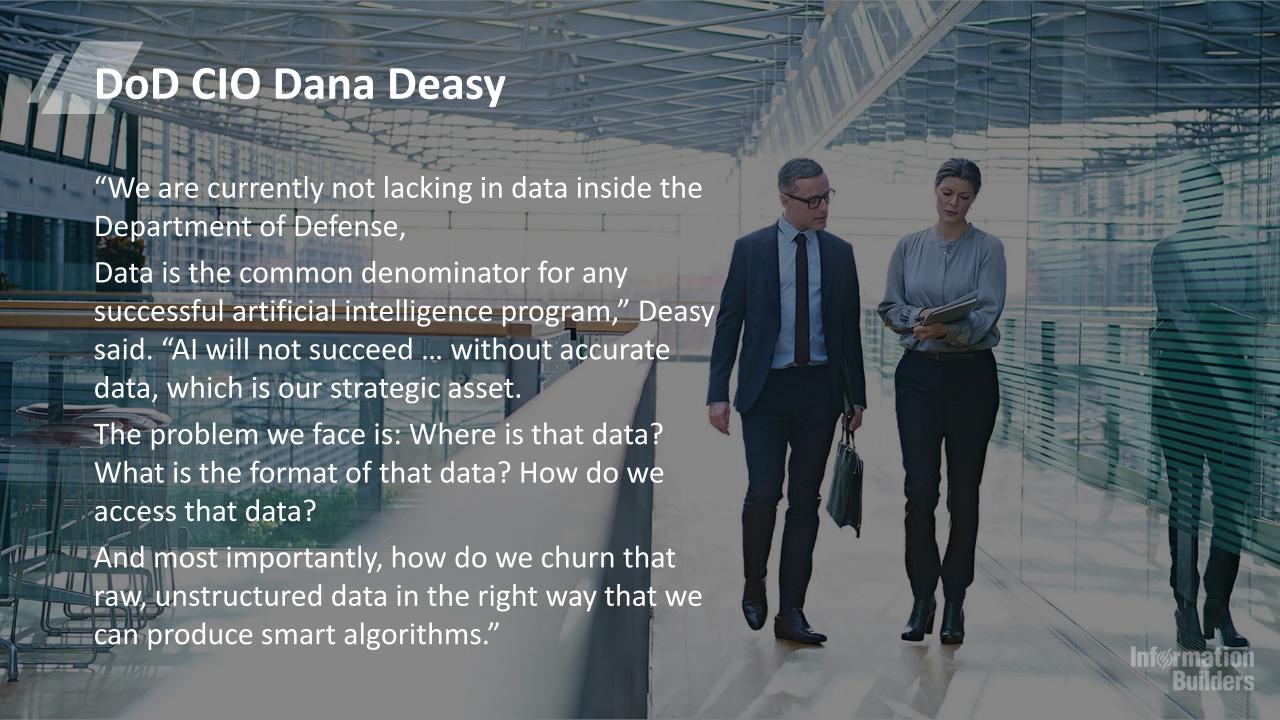


### **Open Data Initiatives – It's All About the Data**

- Service to the Citizen to accelerate and minimize issue resolution to improve public confidence & trust
- Social & Protective Services
  - Reduce crime
  - Track child care services
  - Improve EMS response time
  - Track predators
- Agility to achieve real time & near real time
- Predictive Analyticsto facilitate better outcomes based on past results



## DoD is Changing!





Integrating Existing Supplier Data and Addressing

**Workforce Challenges** 

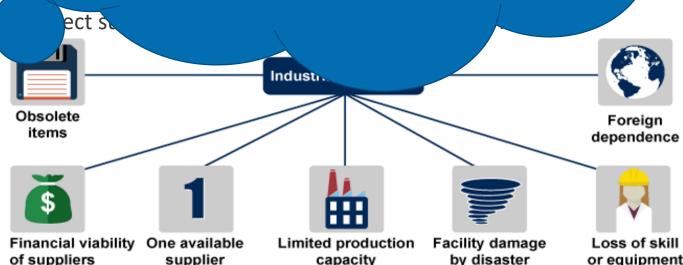
DoD relies on a network of suppliers (\*)
 needs to develop weapon systems

 DoD is required to maintain a data in risks to the base, such as relying on fine partly due to problems it has accessing

DoD is working towards a solution

GOVERNAMINA ACCOUNTABILITY ACCOUNTABILITY ACCOUNTABILITY

We recommend that DoD resolve ongoing data access problems before further investing in current efforts.



### DHA looks to machine learning for military health data

- The Defense Department's Defense Health Agency is using machine learning to solve its interoperability challenges.
- "But we have an abundance of data islands where you can't made connections and not having the right stakeholders at the table," -- Alan Sim
- Machine learning has been used to help multiple DoD agencies make sense of large amounts of data
- Development of registry of patient-level opioid information.

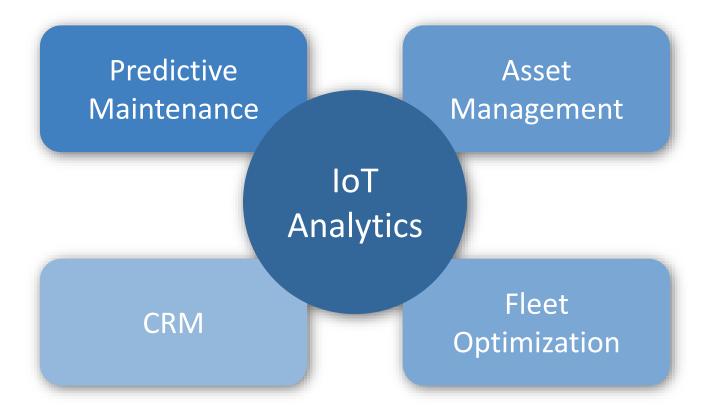




# Real World Use Cases DoD

### **IoT Analytics**

### Landscape



- Want to be more effective and efficient
- Minimize unscheduled maintenance
- Maximize useful life

- > Increase customer lifetime value
- Exceed service level agreements
- Meet on time delivery

### **IoT – Predictive Maintenance**

- The US Air Force must maximize the effectiveness of their assets and the
  efficiency of those assets and their corresponding maintenance operations to
  provide the best possible service to its customers and partners
- The US Air Force is challenged with unexpected and unscheduled maintenance of their assets, cargo aircraft, and respective parts and related waste and costs.
- Their goal is to eliminate unscheduled maintenance and maximize the useful life of their assets and respective parts.



### **IoT Analytics**

- Help the US Air Force meet their predictive maintenance goals and objectives by improving the operational efficiency and effectiveness of their and reduce waste and costs by maximizing useful life of asset parts and minimizing unscheduled maintenance.
- Information Builders provides IoT Analytics to help organizations improve operational efficiency and effectiveness and meet or exceed on-time delivery and service level agreements for their predictive maintenance, asset management and fleet optimization initiatives.



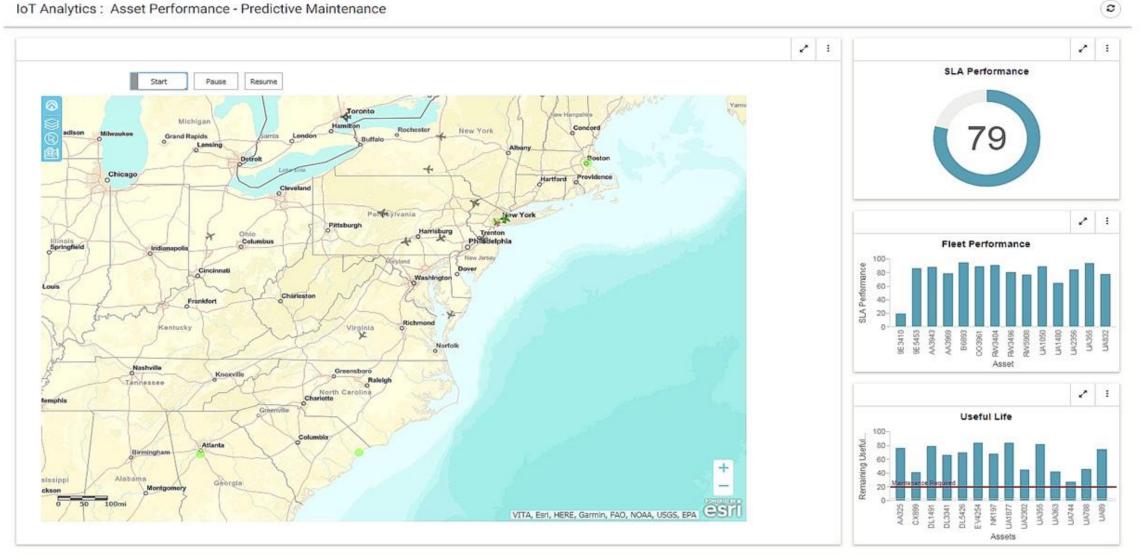
### **Artificial Intelligence is Data and Context Dependent**

- Part sensors generate data to tell us a particular part on an airplane is wearing and will need to be replaced.
- Where is this airplane headed in the near future?
- Where is the replacement part located? This requires data from the inventory management system and perhaps data from 3rd party suppliers.
- Who is best equipped within that geography to perform the repair? This requires data from the HR system and partner ecosystems to find people with the right expertise and training in the nearest possible location.
- How quickly and at which location can we bring these assets together



### **Real Time Flight Tracking and Predictive Maintenance**

IoT Analytics: Asset Performance - Predictive Maintenance



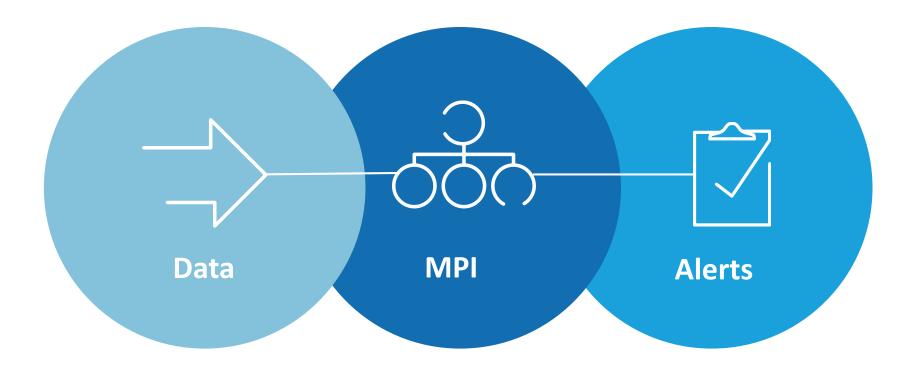


# Real World Uses Cases SLG





### **Opioid Diversion: Lead Generation**



Lead Generation Tools, backed by Predictive Analytics and artificial intelligence, to help Law Enforcement offset the damage done by the illegal prescription of narcotics and Healthcare Fraud



### **Opioid Diversion: Lead Generation**

- PDMP
- Death File
- Incident Data
- Citations
- Social Media
- Geo-Codes
- Tips, Submissions

Data

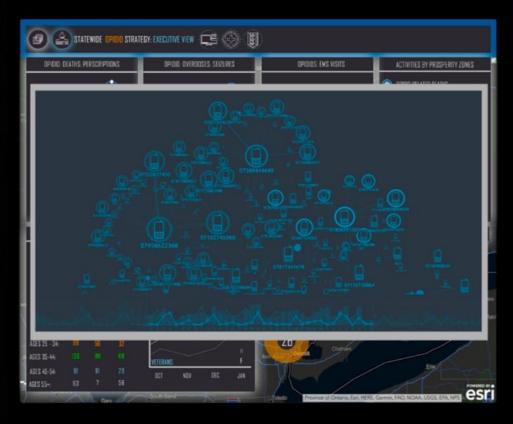
### **MPI**

- Clean, Accurate, Consistent
- Integrated 360° view
- Real-time, Trusted
- Prescriber
- Patient, Citizen
- Pharmacy
- Officer

- Suspect Lead Generation
- Views for apps, Portals
- Data marts for analysts
- Enhanced Analytics
- Feeds to applications, Exchanges
- Data for external partners
- Right data, right place

Alerts





**Command and Control** 



### **Mastering of Locations**



### Organization:

The City of Charlotte, a municipal government in North Carolina

### Challenge:

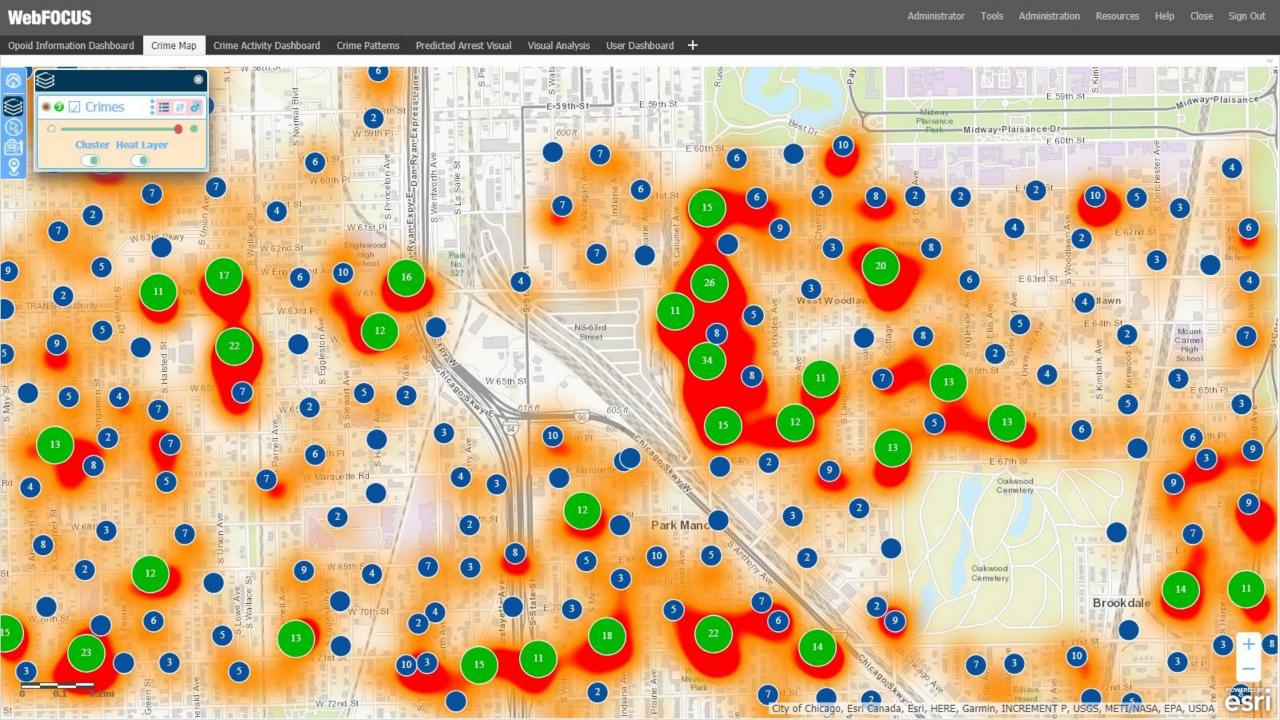
 Lack of standard processes for addresses, including physical and mailing addresses resulted in redundant efforts, inconsistent information, and high aggregate costs

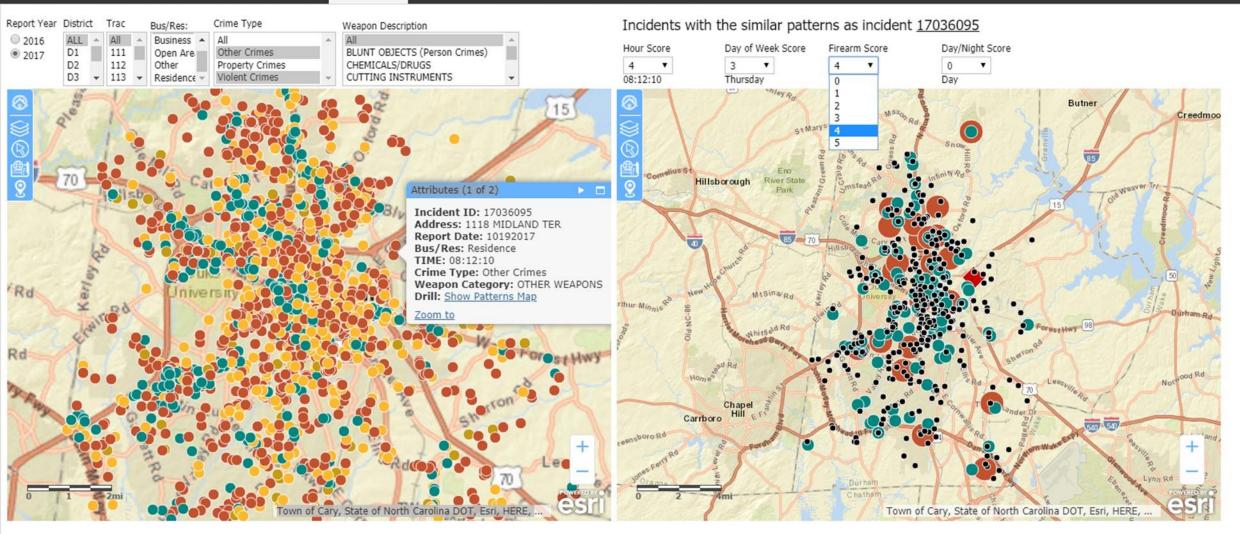
### Solution:

- Deploy Master Data Server to automate profiling, cleansing, matching, enrichment, and monitoring activities, creating a golden set of master address and location records to serve multiple consuming departments/systems
- Leverage iWay integration suite to connect departmental systems and synchronize consuming services to the new master database of location information

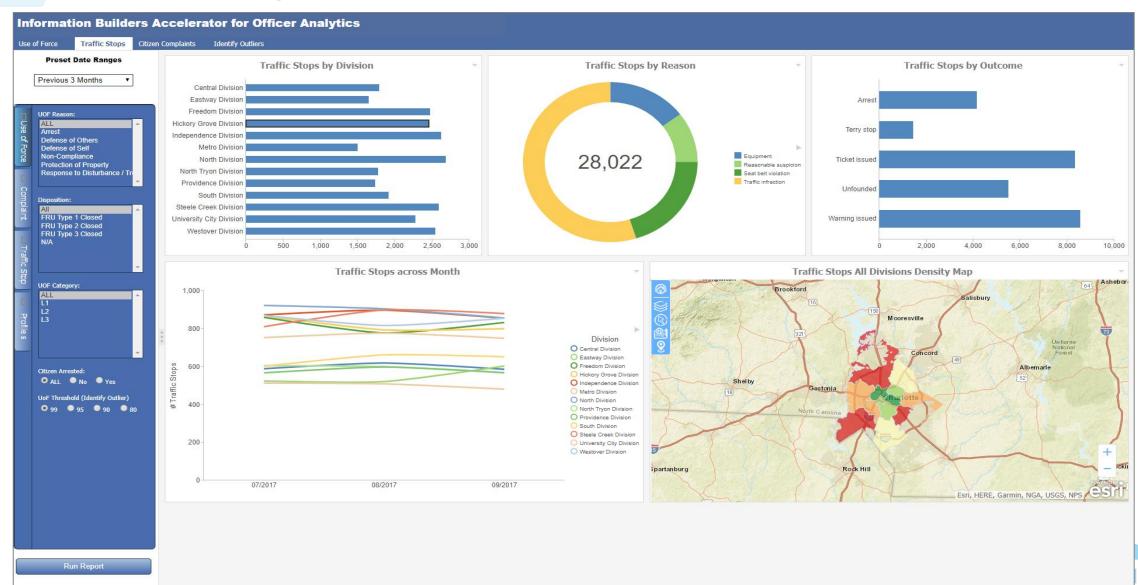
### Results:

- A consistent set of master records that can feed multiple departments/systems
- Improved accuracy of location data quick turnaround for citizen critical services
- Providing customer service representatives a more complete understanding of the services that are being delivered at or near each "location"
- Prompt notification of new or updated locations to city departments, resulting in fewer 'failed' site visits information

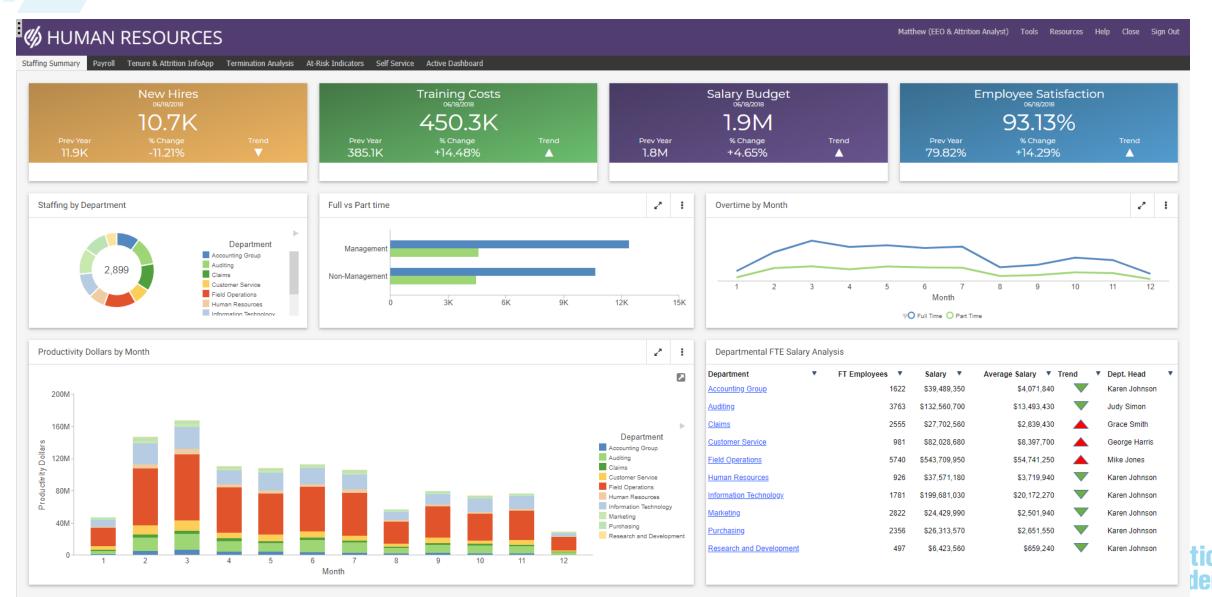




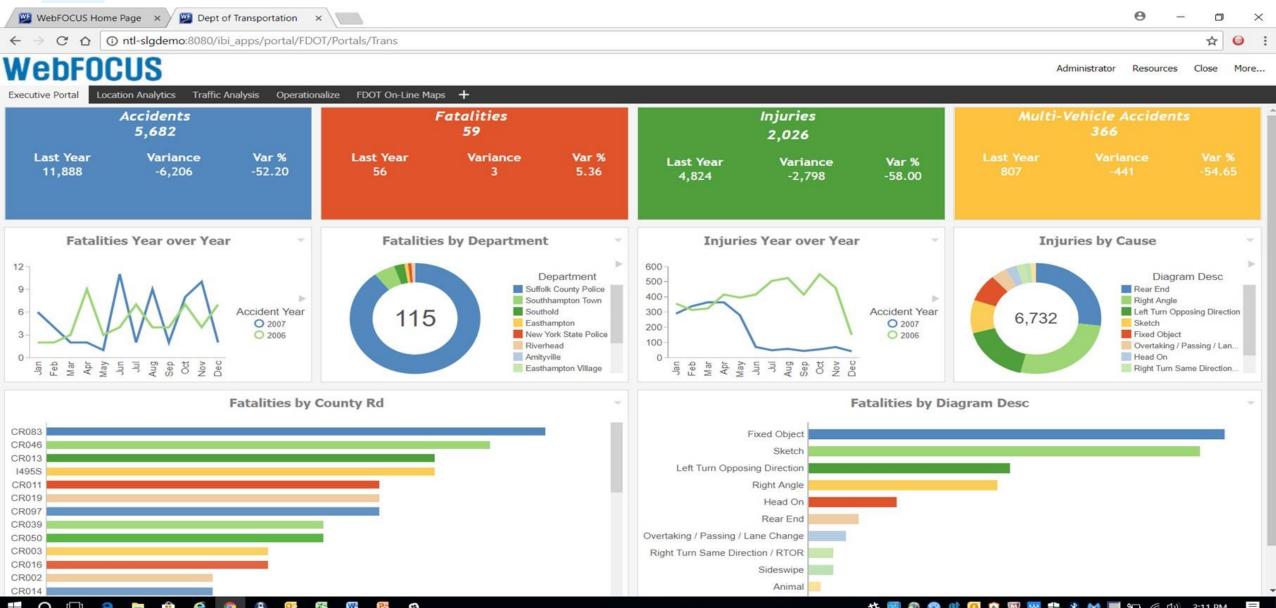
### **Officer Analytics**



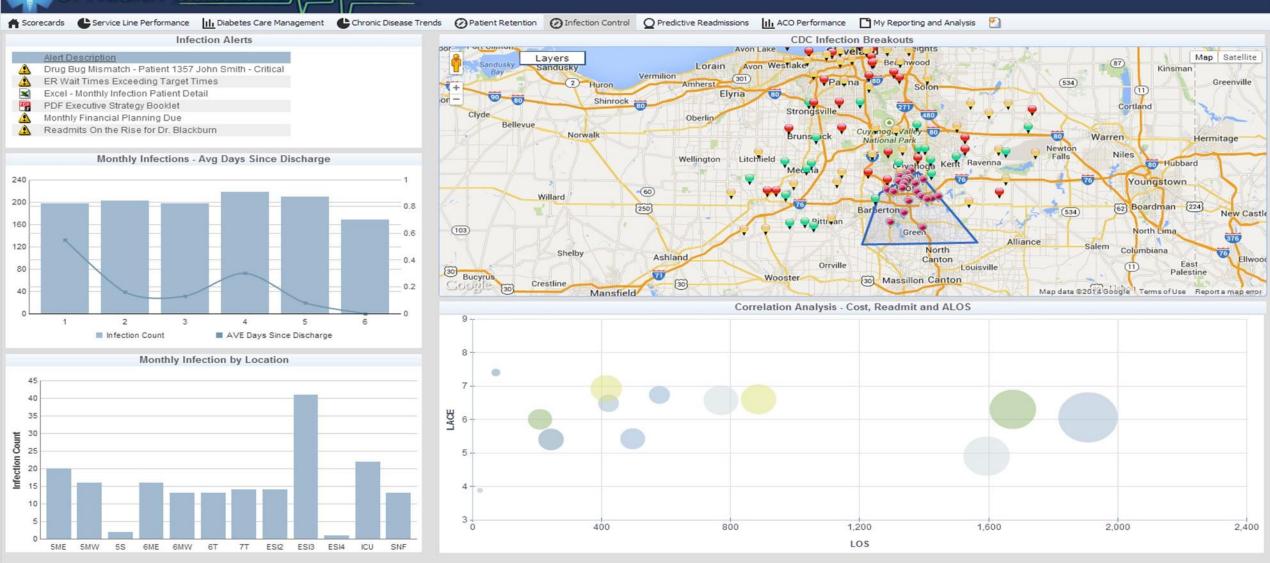
### **Human Resources Portal**



### **Department of Transportation Analytics**

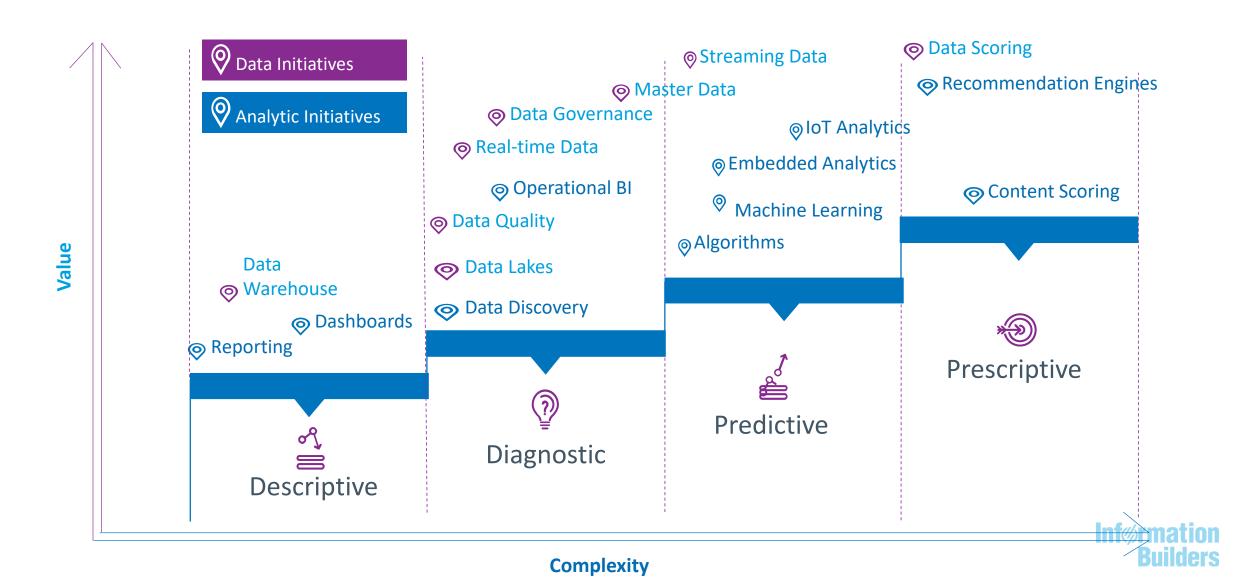


### 31 Health Solutions



### Managing Your Data

### **Data and Analytics Maturity Model**



# **Driving performance through Data Management**

**Breakaway organizations** scale data management and analytics by significantly outperforming in three categories:



**ALIGNING ON STRATEGY** 



BUILDING THE RIGHT FOUNDATIONS OF DATA, TECHNOLOGIES, AND PEOPLE



CONQUERING THE LAST MILE BY EMBEDDING ANALYTICS INTO DECISION-MAKING AND PROCESSES

"Our challenge is at DOD to discover, access, retrieve, analyze and share all the sources of data whenever and wherever our warfighter needs it. It sounds simple, but we all know, if you break that sentence apart, that is an ambitious undertaking."

- Dana Deasy, CIO

# Reality is that too few are breaking away

#### Data is difficult to access

"Organizations that have data in silos have a much harder time employing a holistic management approach in which operations and tasks are optimized across the organization." Carnegie Mellon University

#### Data is not trusted

"As organizations accelerate their digital business efforts, poor data quality is a major contributor to a crisis in information trust and business value, negatively impacting financial performance."

**Gartner** 

#### Tools are hitting the wall

"Analytic tools are only used by 17% of employees in most organizations."





### **Data Management in Essentials**

**Bring your data together** 

Big or classic

Legacy or new

External or internal

Structured or unstructured

Human-entered or machine-

generated

Cloud or on-premises

Make it fit for purpose

Clean

Accurate

Consistent

Integrated

360° view

Real-time

Trusted

Make it easy to consume

Views for apps

Data marts for analysts

Data sources for Al

Feeds to applications

Data for external partners

Right data, right place



### Manage data better to improve business outcomes

- Create trusted data in your organization for operations, analytics, and AI to drive growth
- Establish trust in customer-facing applications to build engagement and loyalty
- Provide trusted data to business processes to reduce costs and increase customer satisfaction





# 6 Steps to Effective Collaboration for Trusted Data



### **Executive Sponsorship**

- Recruit a senior executive to act as the champion, sponsor, tie breaker, and evangelist
- Data Management change disrupts the business processes, practices, and people across your organization
- Change will be disruptive and filled with political landmines. Involvement from the top helps ensure your project can preserve its forward momentum
- Executive Sponsorship breaks ties and evangelizes the shared vision created in the roadmap



### **Shared Vision and Road Map**

- A clear, concise vision is a critical element for success where you are today,
   where you want to be in the future, and how to get there from here
- Ensure alignment of business and technical stakeholders
- The roadmap communicates priorities, timing, and scope of the effort
- Short, focused roadmap and vision projects have lower risk and higher return



### **Business Case**

- A Business Case justifies the investment required for change
- A realistic business case will win executive sponsorship and business user buy-in.
- Funding will follow, especially if your case quantifies the benefits and the costs of fixing the pain points and business problems.



### **Organizational & Cultural Change**

- Data Management is a change management project, not an IT project
- Stakeholders, constituents and influencers are all critical to the success of your project
- Communicate to each stakeholder group and provide the necessary education
- A well-constructed communications strategy, with continuous engagement, can greatly improve transparency and organizational change.



### **Metrics for Measuring Success**

- Metrics measure success and progress
- Metrics are tied to the Business Case
- As with business processes, your initiative must focus on continuous improvement to assure alignment with current and future requirements

"If you can't measure it, you can't manage it" Peter Drucker.



## **The Right Technologies**

- Business Driven Stewardship and IT collaboration
- Data Profiling, Data Integration, Data Quality
- Data Governance tools
- Master Data Management
- Workflow, hierarchy and metadata management
- Security, scalability and high performance and high availability
- Ease of use different UIs for technical and business roles
- Prebuilt Data models and reporting frameworks





# Data Management: Integration and Integrity

## **Business Driven Data Management**











#### **Business-driven**

Puts business-people in charge with profiling, data cleansing, remediation, and mastering

#### **Promotes alignment**

Drives rapid, iterative development and feedback with business and IT collaboration

# Sets you up for success

More comes in the box – including built-in tools, business user portals, and best practices

# Fastest time to value

Pre-built rules and models for customer, supplier, and more





Big, legacy, external, internal, structured, unstructured, human-entered, machine-generated, cloud, on-prem

Views, data marts, applications, data sources, feeds, external



**User Needs** 

Easy access

Secure

Real-time

Trustworthy

Views, data marts, applications

data sources, feeds, external

Complete

Governed

# **Data Access and Integration Bringing data together**

Ũ

**User Needs** 

Easy access

Secure

Real-time

Trustworthy

Views, data marts, applications

data sources, feeds, external

Complete

Governed

Data, messages, APIs, micro services

Cloud or local

Inside or outside your firewall

Real-time or batch

From raw data to maximum usability and trust

# **Business Led Data Quality**Making data trustworthy



micro services

Cloud or local

Inside or outside your firewall

Real-time or batch

Secure, easy,

workflow-enabled data stewardship

Data Quality monitoring

Business and IT collaboration



**User Needs** 

Easy access

Secure

Real-time

Trustworthy

Views, data marts, applications

data sources, feeds, external

Complete

Governed

From raw data to maximum usability and trust

#### Agile Master Data Management **Getting the complete picture**



Data, messages, APIs, micro services

Cloud or local

Inside or outside your firewall

Real-time or batch

Secure, easy, workflow-enabled data stewardship

**Data Quality** monitoring

**Business and IT** collaboration

Model-driven development

360° view of master data

Advanced portal for business data

#### **User Needs**

Easy access

Secure

Real-time

**Trustworthy** 

Views, data marts, applications

data sources, feeds, external

Complete

Governed

From raw data to maximum usability and trust

# Modern Data Management delivers value by changing the approach to Business-driven:

- Lower cost and faster time to value
  1 to 3 months vs. 12 to 18 months
- Future Proof
   From blockchain to mainframe and everything in between
- Simplified
   Complete solutions for MDM
   and/or Data Quality in a box

#### Automated

Model-driven development lets business own the decisions and data, then helps IT implement the rules

#### • Flexible

Leave-and-layer design, in the cloud or on premise, lets you go from the department to the enterprise with no "do-overs"

# **Driving performance through Data Management**

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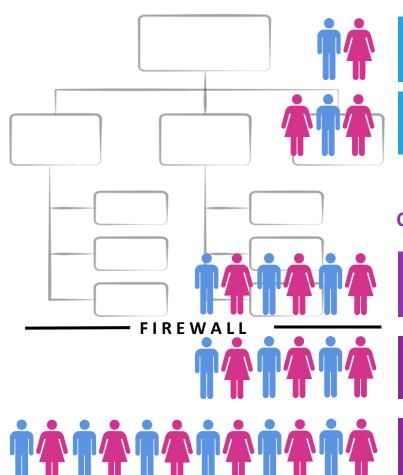
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## Address the needs of every user

#### **Dashboards and Self-service Analytics**



Executive Command Dashboards

Strategic **Decision-Making** 

High **Visibility** 

Analysts and **Data Scientists**  Data Discovery and **Advanced Analytics** 

Identify Opportunities.

**Generate Insight** 

#### **Operational Analytics and Data Monetization**

Non-Technical Staff

Decision Support Apps, Metrics, Alerts, and IoT Drive Culture, Efficiency, and Performance

Partners, Agencies

Decision Portal Performance Metrics Supply and Service **Chain Optimization**  Warfighters and Citizens

Customer Portals, estatements, InfoGraphics

Drive Revenue, Loyalty, and Differentiation

Highest **Value** 

#### Information Builders in Public Sector

#### Federal Government

































### **Civil Depts**

Treasury, Education, Transportation, USDA, HUD, Justice, Interior, Commerce, State, Labor, HHS

#### **DOD**

DLA, DISA, DFAS, AF, Army, Navy, Marines, VA, NSA

# **Independent Agencies**

USPS, NASA, SSA, SEC, FDIC, EPA, FEMA, FCC, GAO

### Information Builders in Public Sector

#### State & Local Government

















































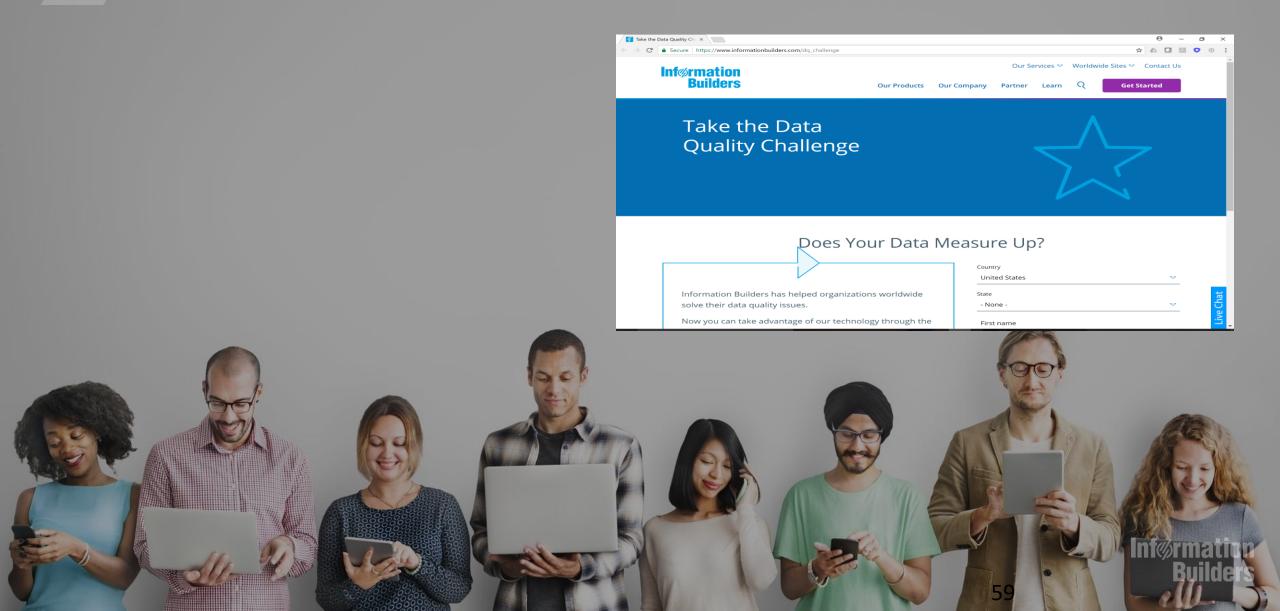








# Take the Data Quality Challenge!



### Recommendations



ta driven tran

Discovery Workshop

- Meeting with business and technology stakeholders
- Align the Strategy and the Vision
- ½ day to 2 days



start smal

### Roadmap Overview

- Business Case Developed
- Process and Technology
   Plan
- Alignment of Plan to the Vision
- Technology Acquisition



#### Execution

- Communication and Evangelization
- Technology Deployment
- Process Change

### Solution Assessment

#### Inf@rmation Builders

Achieving Success with Data Transformation

- Solution Assessment Process

#### Overview

03

Central Mutual Insurance Company (Central) has recently undertaken an enterprise data transformation in which it seeks to better its position in the marketplace and enable better decision making through the expansion of enterprise analytics built on a flexible data management foundation. The enterprise data transformation is the key component of Central's strategic plan. Central is seeking a trusted partner to assist in realizing its objectives. To that end Information Builders proposes a Solution Assessment to ensure our technology, expertise, and implementation approach are optimally aligned in support of the enterprise data transformation initiative.

#### The Journey to Success

P&C insurers rely on operational data for their most important business decisions. Leveraging that data typically involves numerous efforts, formal or roome, that fail to look



#### Inf@rmation Builders

#### Discovery Overview

We appreciate the time sensitivity and Central's desire to move the process forward quickly. We understand the need to refine the objectives and scope of any proposed initiative relative to Central's goals, timelines, and constraints. To that end, we propose an abbreviated two-day discovery workshop aimed squarely at understanding the business and technical environment, opportunities, risks, capabilities, constraints, and most importantly, how we can partner together to achieve Central's objective.

#### Key Areas of Focus:

- 1. Business Area—Challenges and Opportunities
  - Policy
  - Claims
  - Billing
  - Reinsurance
- Technical Landscape
  - Systems and applications
  - Infrastructure and standards
  - Source data
  - Integration

#### Key Values of the Solution Assessment

- Better understanding of how we will partner together for success.
- Refined alignment of technology, expertise, and approach.
- Identification of key opportunities and risks.
- 4. Refined estimates for level of effort and timeline.
- Refined cost for software and services.
- Recommended implementation approach and high-level plan.

#### Summary

Data sourcing review—recommended

Information Builders will deliver a concise summary of findings with recommended implementation approach and next steps for Central to further its journey to a data-driven organization. Companies today are looking to boost operational productivity and performance while addressing the full range of integration and information requirements throughout the extended enterprise. We have the lintegration, data integrity, and business intelligence

#### **Participants** Business executives Kickoff and expectations review ■ IT White board review Source data/system review: System owners/DBAs: Cla History Sales, Finance, Underwrit Policy/Quotes Business analyst (SME) Claims Project manager ■ GL Financial concepts and IPF terminology Master Data Model Data experts Dimension tables: Business analyst Common Project manager Policy and Coverage System architect Claims and Reserve Line Time and Band Fact tables: Policy Claims Miscellaneous

#### Aligning with Your Goals

Central has differentiated itself in the insurance industry by building its core systems with unique processes and data fields in-house. Information Builders seeks to partner with Central to build upon its inherent competitive advantages and strategic goals. Because each organization is different, we recommend an assessment where business leaders from Central and Information Builders will meet to better

# Thank you

